

Translation

PATENT COOPERATION TREATY

PCT

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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 03PCFP852	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/JP2003/006374	International filing date (day/month/year) 22 May 2003 (22.05.2003)	Priority date (day/month/year) 24 May 2002 (24.05.2002)
International Patent Classification (IPC) or national classification and IPC H01M 4/02, 4/38, 4/48, 4/62, 10/40		
Applicant NEC CORPORATION		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of <u>8</u> sheets, including this cover sheet. <input checked="" type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT). These annexes consist of a total of <u>3</u> sheets.
3. This report contains indications relating to the following items: I <input checked="" type="checkbox"/> Basis of the report II <input type="checkbox"/> Priority III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability IV <input checked="" type="checkbox"/> Lack of unity of invention V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement VI <input checked="" type="checkbox"/> Certain documents cited VII <input type="checkbox"/> Certain defects in the international application VIII <input type="checkbox"/> Certain observations on the international application

Date of submission of the demand 22 May 2003 (22.05.2003)	Date of completion of this report 03 February 2004 (03.02.2004)
Name and mailing address of the IPEA/JP	Authorized officer
Facsimile No.	Telephone No.

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I. Basis of the report

1. With regard to the elements of the international application:*

- ☐ the international application as originally filed
- ☒ the description:
pages 1-44, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____
- ☒ the claims:
pages 3-5, 8-16, as originally filed
pages _____, as amended (together with any statement under Article 19
pages _____, filed with the demand
pages 1-2, 6-7, filed with the letter of 22 January 2004 (22.01.2004)
- ☒ the drawings:
pages 1-12, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____
- ☐ the sequence listing part of the description:
pages _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language _____ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/fig _____

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

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IV. Lack of unity of invention

1. In response to the invitation to restrict or pay additional fees the applicant has:

- ☒ restricted the claims.
- ☒ paid additional fees.
- ☐ paid additional fees under protest.
- ☐ neither restricted nor paid additional fees.

2. ☐ This Authority found that the requirement of unity of invention is not complied with and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees.

3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is

- ☐ complied with.
- ☒ not complied with for the following reasons:

See supplemental sheet

4. Consequently, the following parts of the international application were the subject of international preliminary examination in establishing this report:

- ☐ all parts.
- ☒ the parts relating to claims Nos. 1-14

Supplemental Box

(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of: IV. 3.

In order for the group of inventions described in the claims to fulfill the requirement of unity of invention, there must be a "special technical feature" which links the group of inventions so as to form a single general inventive concept.

The technical feature of claim 1 is "a negative electrode for a secondary cell provided with a negative active material layer that can occlude and emit lithium ions, wherein the aforementioned negative active material layer is provided with a first layer having carbon as a principal constituent and a second layer, and the aforementioned second layer includes an element having a theoretical capacity greater than the theoretical capacity of graphite and at least one second element having a theoretical capacity not greater than the theoretical capacity of graphite, and the aforementioned second element is at least one element selected from a group comprising C and Fe."

Meanwhile, the technical feature of claim 2 is "a negative electrode for a secondary cell provided with a negative active material layer that can occlude and emit lithium ions, wherein the aforementioned negative active material layer is provided with a first layer having carbon as a principal constituent and a second layer, and the aforementioned second layer includes an element having a theoretical capacity greater than the theoretical capacity of graphite and at least one second element having a theoretical capacity not greater than the theoretical capacity of graphite, and the aforementioned second layer includes particles, and the

Supplemental Box

(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of: IV. 3.

aforementioned particles include the aforementioned first element and the aforementioned second element."

These technical features are different, and thus, there is no "special technical feature" common to claims 1 and 2.

Therefore, the group of inventions described in the present claims 1 to 16 clearly does not fulfill the requirement of unity of invention.

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V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**1. Statement**

Novelty (N)	Claims	1-14	YES
	Claims		NO
Inventive step (IS)	Claims	1-14	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-14	YES
	Claims		NO

2. Citations and explanations

Claim 1 and claims 7 to 14, which refer to claim 1, are novel and involve an inventive step.

The feature of the invention of a negative electrode for a secondary cell described in claim 1, wherein a second layer includes an element having a theoretical capacity greater than the theoretical capacity of graphite and at least one second element having a theoretical capacity not greater than the theoretical capacity of graphite, and the aforementioned second element is at least one element selected from a group comprising C and Fe, is not disclosed in any of the documents cited in the international search report, nor would it be obvious to a person skilled in the art.

Claim 2 and claims 3 to 14, which refer to claim 2, are novel and involve an inventive step.

The feature of the invention of a negative electrode for a secondary cell described in claim 2, wherein a second layer includes an element having a theoretical capacity greater than the theoretical capacity of graphite and at least one second element having a theoretical capacity not greater than the theoretical capacity of graphite, and the aforementioned second layer includes particles, and the aforementioned particles include the

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aforementioned first element and the aforementioned second element, is not disclosed in any of the documents cited in the international search report, nor would it be obvious to a person skilled in the art.

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VI. Certain documents cited

1. Certain published documents (Rule 70.10)

<u>Application No. Patent No.</u>	<u>Publication date (day/month/year)</u>	<u>Filing date (day/month/year)</u>	<u>Priority date (valid claim) (day/month/year)</u>
JP 2003-217574 A [E, X]	31 July 2003 (31.07.2003)	23 January 2002 (23.01.2002)	

2. Non-written disclosures (Rule 70.9)

<u>Kind of non-written disclosure</u>	<u>Date of non-written disclosure (day/month/year)</u>	<u>Date of written disclosure referring to non-written disclosure (day/month/year)</u>